APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,457	11/21/2003	Jean-Pierre Mao	245496US41X DIV	8066

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EXAMINER
SEICHECK, GREGORY B

ART UNIT	PAPER NUMBER
2619	

NOTIFICATION DATE	DELIVERY MODE
04/02/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/717,457	MAO, JEAN-PIERRE
Office Action Summary	Examiner	Art Unit	
	GREGORY B. SEFCHECK	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 January 2008</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>08 January 2008</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 1/8/2008 is acknowledged.

- Claims 1, 9, 12, 13, 16, and 19 have been amended.

- Previous objections to claim 12 and the drawings and rejection of claims 13 and 19 under 35 USC 112, 2nd paragraph are withdrawn in light of the amendments.

- Claims 20-25 have been added.

- Claims 1-25 remain pending.

Claim Objections

1.   Claim 15 and 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 15 and 18, which depend from claims 12 and 16, respectively, recite the same limitation as in claims 12 and 16: packeting time is greater than transmission time.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-11, 20, and 22-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Robins et al. (US006430184B1), hereafter Robins, in view of Hellwig

et al. (US007020149B1), hereafter Hellwig.

-    Regarding Claims 1-6, 9, 20, and 23-25,

Robins discloses a system for communicating data packet flows, including

Asynchronous Transfer Mode (ATM; Abstract; Col. 1, line 27; claim 1,9 - system for

processing and transmitting packets of asynchronous data).

Referring to Figs. 1-3, Robins discloses Queue Manager (QM) 30 for managing

the packeting and storing of data packets in a plurality of buffers 35/36, where data

packets are made up of a plurality of data cells (QM managing the packeting of multiple

packets of multiple flows constitutes a plurality of packeting modules; Col. 5, lines 42-

51; Col. 6, lines 5 and 25-29; claim 1 - a plurality of packeting modules configured to

packet asynchronous data; claim 3 - a battery connected to said plurality of packeting

modules, said at least one battery being configured to store said asynchronous data;

claim 9 - means for packeting asynchronous data in a packeting module).

Robins further discloses Forwarding Engine (FE) 40 provides instructions to the

QM for packeting of flows based upon received packet headers. Processed data is

output to Quad PHY 2 (Fig. 1, 73) in an order based upon the instructions from FE (FE

together with Quad PHY 2 is considered to be the claimed "message composition

module; Col. 7, lines 8-13; claim 1 - a message composition module connected to said

plurality of packeting modules; claim 4 - message composition module is configured to

receive a plurality of packets from said plurality of packeting modules; claim 5 -

message composition module is configured to receive said plurality of packets one after

another in a predetermined order; claim 20 – message composition module recovers

packets of async data created by the plurality of packeting modules one after the other

in predefined order).

Robins discloses cells associated with the same circuit ID are reorganized by

link-lists into packets, where Robins also discloses a "cut-through" mode of operation in

which the FE instructs packeting of cells to be stopped and the data that has been

processed is transmitted before a complete packet of cells is processed, such that

portions of a packet may be transmitted while other portions are still being received

(Col. 17, lines 25-45; Col 16, lines 17-64; claim 1,2 - each packeting module is

configured to stop packeting asynchronous data even if packeting is not completed in

response to said request and to send to said message composition module a packet of

asynchronous data formed prior to receiving said request; claim 9 - means for

stopping/interrupting said means for packeting in response to said request; claim 9 -

means for transmitting a plurality of packets, even if packet is not completed, each

packet of said plurality being formed by said means for packeting prior to an interruption

by said means for interrupting; claim 6,9 - composing a message comprising said

plurality of packets; claim 24 – means for interrupting interrupts said packeting as soon

as the packeting module receives the request from the message composition module;

claim 24 - means for transmitting transmits an incomplete data packet composed at time

of said interrupting to the message composition module after packeting is interrupted).

Robins does not explicitly disclose FE 40 (message composition module)
requests a packet from QM 30 (packeting module) when it needs a packet.

However, Hellwig discloses a method for operating a switching system for data
packets (Title) in which, as soon as an access controller MAC 12 signals its availability
to the queue manager 42 by means of a message 3 (request), the queue manager
requests a packet from the memory management unit in order to compose messages of
packets (Fig. 1; Col. 5, lines 4-52; claim 1,2 - message composition module is
configured to compose a message and send a request for a packet to each packeting
module of said plurality of packeting modules when it needs a packet; claim 9 - means
for receiving a request from a message composition module when it needs a packet;
claim 23 – means for transmitting transmits said packet as soon as the message
composition module requests said packet; claim 24 – means for starting a next
packeting operation composing a next data packet as soon as the incomplete packet is
transmitted; claim 25 – wherein the message composition module needs said packet
after the message composition module has transmitted a previous data packet and is
ready to start packeting data again).

It would have been obvious to one of ordinary skill in the art at the time of the
invention to modify Robins by enabling FE 40 to request a packet to be processed when
it needs a packet, as shown by Hellwig, ensuring that the processing of the FE is always
being utilized while composing different messages of packets to be output.

- Regarding Claims 7, 8, 10, and 11,

Robins discloses a system for communicating data packet flows that meets all limitations of the parent claims.

Robins discloses that packets that have been processed are output to Quad PHY 2 (Fig. 1, 73) in the appropriate LAN/WAN protocol format for the transmission line (Col. 1, lines 23-26; Col. 5, lines 60-65; claim 7,10 - formatting module connected to said message composition module and configured to format said message; claim 8,11 – output module configured to transmit said message on a transmission line).

- Regarding Claim 22,

Robins discloses a system for communicating data packet flows that meets all limitations of the parent claims.

Robins discloses QM 30 is implemented to rapidly execute the placing of data on appropriate queues and apply queue policies as directed by FE 40 (Col. 6, lines 25-30; claim 22 – packeting module is configured to sort and enhance data).

4.   Claims 12 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robins and Hellwig as applied to claims 1-11 above, and further in view of Kato et al. (US005544336A), hereafter Kato.

- Regarding Claims 12, 14-16, and 18,

Robins discloses a system for communicating data packet flows, including
Asynchronous Transfer Mode (ATM; Abstract; Col. 1, line 27; claim 16 - system for
processing and transmitting packets of asynchronous data).

Referring to Figs. 1-3, Robins discloses Queue Manager (QM) 30 for managing
the packeting and storing of data packets in a plurality of buffers 35/36, where data
packets are made up of a plurality of data cells (QM managing the packeting of multiple
packets of multiple flows constitutes a plurality of packeting modules; Col. 5, lines 42-
51; Col. 6, lines 5 and 25-29; claim 16 - means for packeting asynchronous data during
a packeting time).

Robins further discloses FE 40 (message composition module) that provides
instructions (request/message) to the QM for packeting and output of flows to Quad
PHY 2 based upon received headers (FE together with Quad PHY 2 is considered to be
the claimed "message composition module; Col. 7, lines 8-13). Robins discloses cells
associated with the same circuit ID are reorganized by link-lists into packets, where
Robins also discloses a "cut-through" mode of operation in which the FE instructs
packeting of cells to be stopped and the data that has been processed is transmitted
before a complete packet of cells is processed, such that portions of a packet may be
transmitted while other portions are still being received (Col. 17, lines 25-45; Col 16,
lines 17-64; claim 16 - means for stopping/interrupting said means for packeting in
response to said message; claim 16 - composing a message comprising said plurality of
packets; claim 16 – means for transmitting said message during a message transmitting
time, even if packet is not completed).

Robins does not explicitly disclose FE 40 (message composition module) requests a packet from QM 30 (packeting module) when it needs a packet.

However, Hellwig discloses a method for operating a switching system for data packets (Title) in which, as soon as an access controller MAC 12 signals its availability to the queue manager 42 by means of a message 3 (request), the queue manager requests a packet from the memory management unit in order to compose messages of packets (Fig. 1; Col. 5, lines 4-52; claim 16 – means for requesting a packet when a message composition module needs a packet).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robins by enabling FE 40 to request a packet to be processed when it needs a packet, as shown by Hellwig, ensuring that the processing of the FE is always being utilized while composing different messages of packets to be output.

Robins discloses that cut-through mode causes packeting to be ended and data is passed to Quad PHY 2 (Fig. 1, 73), such that portions of a packet may be transmitted while other portions are still being received (Col. 17, lines 42-45). However, Robins does not explicitly disclose the time for packeting (TP) approaches the total time (TT) for transmitting of data by minimizing the time for transmitting.

Kato discloses that a parallel processing system can reduce overhead caused by the data transmission in a system. When multiple processing units operate synchronously, data can be transmitted while other data is received and processed

(Abstract; <u>claim 12,15,16,18</u> – packeting of said asynchronous data is performed during a packeting time greater than half of a total time for packeting said asynchronous data and for transmitting said message; <u>claim 14</u> - packeting time is equal to a cycle time for a transmission line over which said formatted message is transmitted).

It would have been obvious to one of ordinary skill in the art at the time of the invention to maximize the transmission cycle in Robins such that the time for packeting approaches the total time for transmitting of data. This is accomplished by minimizing the time for transmitting, as shown by Kato, since data can be transmitted at the same time as other data is being received and processed, so that the transmission time is counted as zero.

-    Regarding Claims 17,

Robins discloses a system for communicating data packet flows that meets all limitations of the parent claims.

Robins discloses that packets that have been processed are output to Quad PHY 2 (Fig. 1, 73) in the appropriate LAN/WAN protocol format for the transmission line (Col. 1, lines 23-26; Col. 5, lines 60-65; <u>claim 17</u> - formatting module connected to said message composition module and configured to format said message; <u>claim 17</u> – output module configured to transmit said message on a transmission line).

5.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robins

and Hellwig as applied to claim 1 above, and further in view of Halliday et al.

(US20020083345A1), hereafter Halliday.

-    Regarding Claim 21,

Robins discloses a system for communicating data packet flows that meets all

limitations of the parent claims.

Robins does not explicitly disclose a message including data equal to or less

than 11 and including one wrapping.

Halliday discloses communication of a message including 3 packets in a

message having one header (wrapping; Fig. 5 and 10; claim 21 – message includes a

number of data in said packet of async data equal to or less than 11, said message

includes one wrapping).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Robins by including multiple data packets in a message using a

single header, as shown by Halliday, thereby conserving the bandwidth required to send

each data packet with its own header.

6.   Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Robins, Hellwig and Kato as applied to claims 12 and 18 above, and further in view

of Fiorini (US005740173A).

-    Regarding Claims 13 and 19,

Robins discloses a system for communicating data packet flows that meets all

limitations of the parent claims.

As shown above in the rejection of claims 12 and 18, it would have been obvious

to one of ordinary skill in the art at the time of the invention to maximize the

transmission cycle in Robins such that the time for packeting approaches the total time

for transmitting of data. This is accomplished by minimizing the time for transmitting, as

shown by Kato, since data can be transmitted at the same time as other data is being

received and processed, so that the transmission time is counted as zero (claim 13,19 -

time for said transmitting said message is negligible compared to said packeting time

within total time).

Robins does not explicitly disclose the total time being less than 100 ms (Col. 1,

lines 25-27). However, Robins discloses support for ATM data, which has a packeting

and transmit time of less than 100 ms as shown by Fiorini (Col. 17, lines 32-35; claim

13,19 - total time of less than 100 ms).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to enable packeting and transmitting time to be less than 100 ms in Robins, as

shown by Fiorini, in order to support the ATM data communication disclosed by Robins.

Response to Arguments

7.   Applicant's arguments filed 1/8/2008 regarding the objection of claims 15 and 18
have been fully considered but they are not persuasive.

-    In the Remarks on pg. 9 of the Amendment, Applicant contends that claims
     15 and 18 do not recite the same limitation as in claims 12 and 16.

-    The Examiner respectfully disagrees. While claims 15 and 18 do not recite
     the same explicit limitations as in claims 12 and 16, they do not further limit
     the claims from which they depend. Claim 15 recites "packeting time is more
     than a time for transmitting said formatted message. However, claim 12, from
     which claim 15 depends, states that packeting time is greater than half of a
     total time for packeting and transmitting, thus defining packeting time to be
     greater than transmitting time. Therefore, the limitation of claim 15 does not
     further limit the limitations presented in claim 12. Claims 16 and 18 also
     recite these contextually equivalent limitations, therefore the objection to
     claim 18 is also maintained for failure to further limit its parent claim.

8.   Applicant's arguments with respect to claims 1-25 have been considered but are
moot in view of the new ground(s) of rejection.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-

272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wing Chan can be reached on 571-272-7493. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory B Sefcheck/   /Wing F Chan/
Examiner, Art Unit 2619   Supervisory Patent Examiner, Art
3-25-2008   Unit 2619
                                               3/25/08